

The economics of rhino extinction

by Mike 't Sas-Rolfes

Anthony Bannister/ABPL



In recent years, the plight of the rhinoceros has received considerable publicity. Many people are aware of the drastic drop in numbers that occurred over the last 30 years, and that the ongoing onslaught by poachers could lead to the extinction of rhinos in the wild. What most people are not aware of, however, is that rhino extinction is completely unnecessary. A simple analysis of the economic forces driving the predicament can generate a clearer understanding of the problem, and provide fairly straightforward solutions to it.

Past mistakes

The widespread extermination of African wildlife is the result of certain policy errors that were

made in the past. Under colonial rule, game was declared as common property, and whoever chose to kill an animal was entitled to its carcass. Such a legal arrangement gave rise to a so-called 'tragedy of the commons', with hunters attempting to shoot as much as possible for themselves before someone else beat them to it.

When it became apparent that many species were being threatened with complete eradication, the authorities reacted by proclaiming game reserves and national parks based on European and North American models. These adopted a 'preservationist' approach and prohibited any consumptive uses of wildlife. Game outside these areas

Members of the southern African public have been asked to donate vast sums of money to help alleviate the plight of the Black Rhino. These funds have been requested for 'anti-poaching' activities, or to buy additional land for government conservation agencies. In this provocative article, Mike 't Sas-Rolfes looks at the problems of rhinos through the eyes of the economist. His contribution is based on a business economics dissertation submitted to the University of the Witwatersrand. He concludes that "Government's role should be to protect the rights of private individuals, not dabble in the business of rhino breeding".

What do YOU think? We will publish any reasonable responses to Mike's challenging article in the next issue of *Endangered Wildlife*.

Editor

remained common property. Ultimately this led to a situation where most big game species became limited to areas where they were either fairly inaccessible or protected by the state.

The laws determining property rights to game were never changed, except that certain rare species were declared 'royal game', and hunting of these was forbidden. Despite this, some species were still persecuted, since they tended to have no more than



Cover photograph by Anthony Bannister/ ABPL
(Anthony Bannister Photo Library)

PO Box 11, Lanseria, 1748, South Africa
Telephone: Johannesburg (011) 659-2725 Telefax: Johannesburg (011) 659-1510

nuisance value to farmers and landowners.

The entire set of events also led to a growing resentment of colonial policies by the rural Africans whose traditional rights to wildlife had now been usurped. Furthermore, the fact that anyone could legally own cattle, goats, donkeys and chickens, but not have any private rights to wild animals without killing them, led to the inevitable shift in dependence from wild to domesticated species for protein requirements.

Rhino conservation

Being regarded as dangerous, and highly prized for their meat, horn and other products, rhinos were virtually wiped out in southern Africa during the previous century. The southern race of White (Square-lipped) Rhino was saved from extinction by the Natal Parks Board, which launched a highly

successful relocation programme in the early sixties. The result of these efforts is that the southern White Rhino is currently the most abundant variety in existence.

Unfortunately, the status of the Black (Hook-lipped) Rhino received less attention, and there was a recent unexpected population crash in the Natal parks. As a result, the focus of attention has shifted to this species, and the South African conservation authorities envisage using a translocation programme similar to the one employed to save the White Rhino.

Changing scenario

The Black Rhino conservation plan, however, is one that will be effected under different conditions to the White Rhino operation which took place 30 years ago. At that time there were over 100 000 rhinos in Africa. Today, there are

less than 8 000 (with 5 000 of these in South Africa). Poaching has led to the extinction of both the northern race of White Rhino, and the Black Rhino, throughout most of their previous ranges.

Poaching pressure has moved southward, and is now concentrated on the populations of Zimbabwe, Namibia and South Africa. Although there have been only isolated incidents of poaching in the latter two countries, there is no room for complacency. An examination of the demand for rhino horn in Asia suggests that conservationists have much to be concerned about.

The general public is still largely ignorant of the uses of rhino horn. Although some horn has been used for making Yemeni dagger handles, and there have been isolated cases of use as an aphrodisiac, by far the largest

NATIONWIDE PROPERTY AND FINANCIAL SERVICES.

RUSSELL, MARRIOTT & BOYD TRUST



Johannesburg: (011) 883-7251. Cape Town: (021) 26-1730. Durban: (031) 304-2731.

source of demand is for use as a cold and fever remedy. Trying to curb the demand for rhino horn in Asia could be compared with taking Aspirin off our market – an unlikely scenario.

It should also be noted that the price of rhino horn on Asian markets has soared over the last few years, and Taiwanese are now buying it for investment purposes.

A reduction in the supply of rhino horn pushes up the price. This in turn provides greater rewards to poachers and middlemen. The higher the price, the more sophisticated the poachers. Also, as prices increase, more game guards and rangers will be encouraged to get involved in poaching activities to supplement their modest incomes.

Throughout Africa, the greatest poachers inevitably come from the ranks of government. South Africa is no exception. All recent incidents of rhino poaching have had at least one government employee involved. The most serious of these was the case of a

National Parks Board ranger who shot over 30 White Rhinos in the Kruger National Park. It is also worth noting that political instability often disturbs the normal functioning of government parks; poachers are always quick to take advantage of such a situation.

The past successes of South African conservation agencies (state parks boards) has led to undue optimism over their ability to cope with what appears to be just another

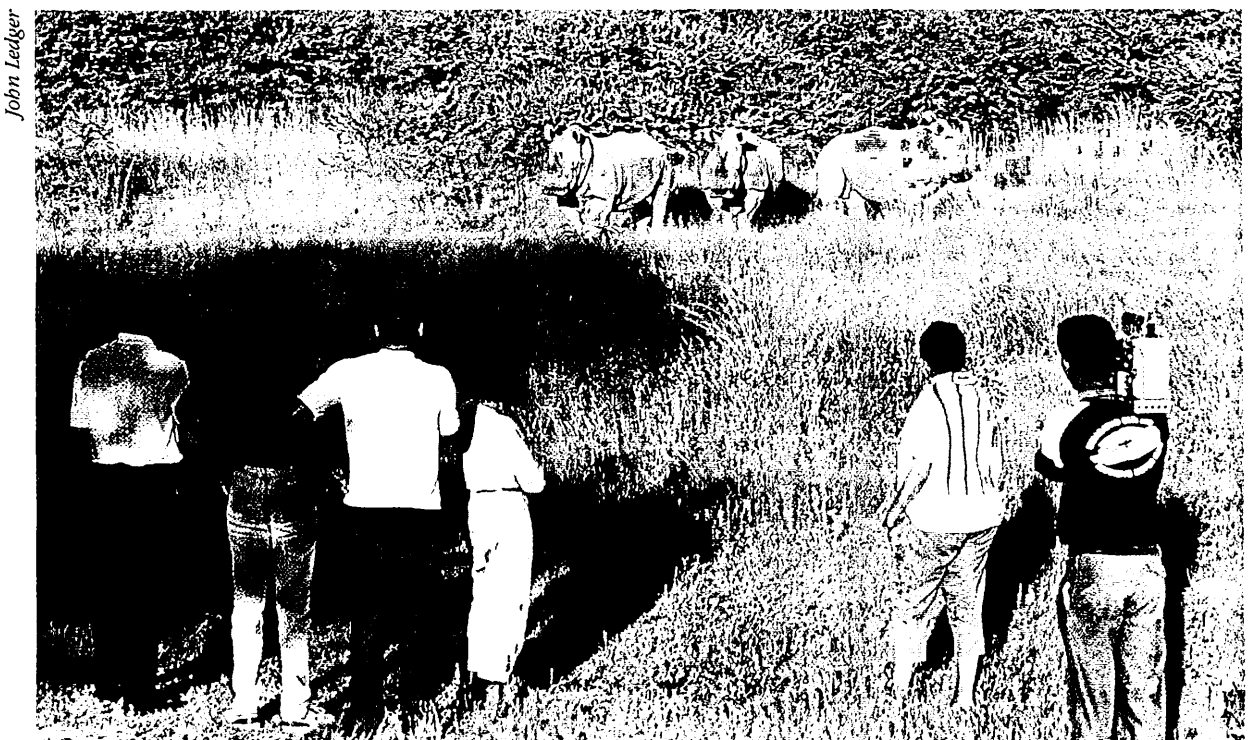
Trying to curb the demand for rhino horn in Asia could be compared with taking Aspirin off our market – an unlikely scenario.

species conservation problem. In fact, an analysis of the present situation suggests that the Black Rhino could be virtually extinct within the next 10 years. The driving forces of the black market will ensure that all obtainable sources of horn are ultimately exploited – that means all rhinos not under intensive protection will be threatened.

A solution

Is there any solution to the current predicament? The good news is that there is a fairly straightforward one: privatise the rhino industry. Rhino breeding has traditionally been a function of state conservation agencies. These agencies have not generally been too concerned with maximisation of breeding potential; their chief role is conservation of biotic diversity. Yet they currently control most rhino populations. Only 20% of the South African White Rhino population is in private hands; the entire Black Rhino population is under public sector control.

The state Black Rhino monopoly does not appear to serve any useful purpose. Numbers have not soared dramatically under state control. In recent attempts to establish new populations, over 50% of the animals died during translocation. State conservation agencies throughout Africa have strived to prevent rhino poaching by imposing hunting bans and abiding by CITES (the Convention



John Ledger

On the rhino farm of the future?

on International Trade in Endangered Species), but these attempts have failed dismally.

Why is it that we can find domestic cattle everywhere in abundance, but the Black Rhino is an endangered species? Both animals have commercial value and both are easily tamed. Black Rhinos may cost more to keep, but they are also worth a lot more. The only reason why Black Rhinos are not farmed in the same way as any other species is because the government does not allow it. If people were allowed to own rhinos privately, and were allowed to use them for the production of any goods or services, rhinos would be no more endangered than cattle, goats, donkeys, ostriches and crocodiles.

Since the horn can be removed from a live rhino, there would be no need for farmers to kill them. Instead, they could provide a renewable supply which would

help bring prices down and reduce the incentives for poaching. Since all rhinos must eventually die, new markets for rhino products could be created. In the nineteenth century, White Rhino meat was a favourite amongst early South African settlers. Maybe this part of our heritage could be revived.

Unfortunately, there are a number of hurdles to such a Utopian solution, the most notable being

State agencies should be involving the private sector in rhino breeding.

State agencies should be involving the private sector in rhino breeding.

State agencies should be involving the private sector in rhino breeding.

the ban on trade in rhino products imposed by CITES. South Africa would have to renege on the agreement. Since no species has ever been taken off the CITES appendices, only more added, it would seem a good idea to abandon this ineffective policy.

With a legal market for rhino

goods, most other problems could be resolved. The parks boards could auction off supplies of horn collected in the past. Small amounts could be sold at a time, to keep the market partially satisfied, while gaining maximum prices (it would be foolish to attempt to 'flood' a market of that size about which relatively little is known). This would facilitate the gradual commencement of rhino horn production.

Such bold strategies may seem too radical for some conservationists. But state agencies should (at least) be involving the private sector in rhino breeding. There is much resistance to this. The Natal Parks Board has been selling White Rhinos to private landowners since the early 1960s, but a recent survey by Daan Buys showed that many of these have either been shot by trophy hunters or died as a result of poor veld management.

The immediate reaction to the



Papadi Tours



**QUALITY HIKES AND SAFARIS FOR THE ADVENTURE
TRAVELLER**

BOTSWANA, MALAWI, NAMIBIA, AND ZIMBABWE

Scheduled and tailor-made safaris and Adventure Hikes throughout Southern Africa

CONTACT US
P O Box 84262
Greenside 2034
Republic of South Africa

PHONE (011) 782 2565
OR (011) 679 3525



RBC

survey was to question the ability of the private sector to contribute to the conservation of rare species. This is unfortunate, as it appears that inappropriate government policy was largely to blame for the population decline. South Africa is the only country in the world where rhino hunting is legal, and thus the only country offering the 'big five' hunt. As a result, demand for White Rhino trophies has been considerable (Black Rhino hunting is banned). While the Natal Parks Board was selling rhinos at subsidised prices, trophy fees were frequently some 600% higher than the price of a live animal.

At the same time, South African law affords little protection of the rights of game farmers, since all animals in the wild are incapable of being owned under the common law. This combination of factors offers little incentive for any landowners to pursue the business of rhino breeding, unless they are able to achieve considerable returns from non-consumptive uses such as tourism. It should be hardly surprising, therefore, that many rhinos were shot: who would pass up an opportunity to make an instant 600% gross profit?

In recent years, the Natal Parks Board stopped subsidising rhino sales and introduced an auction system. The price soared from R4 000 in 1986 to an average of about R50 000 in 1989, giving some

indication that subsidised prices had been inordinately low. With landowners currently paying much higher prices for live animals, more attention will be directed at proper land management and habitat suitability, and the decision to have them shot will no longer be taken so lightly. Many more landowners are likely to consider breeding as an alternative, especially if rhinos are sold in viable 'family packages'.

Conclusion

An unrestricted market in rhino goods and services would provide society with the optimum number of live rhinos in game reserves, rhino horns and rhino trophies. All that is required is a legalised market, and the recognition and protection of private property rights to rhinos by government. Government's role should be to protect the rights of private individuals, not dabble in the business of rhino breeding.

This year sees the first auction of five Black Rhinos to the private sector by the Natal Parks Board, placing some 1% of the South African Black Rhino population in private hands. The board should follow up this initiative by auctioning off more individuals in future, thereby reducing the state monopoly. In addition, it should call for a lift of the ban on Black Rhino hunting, and auction off

some old non-breeding bulls to trophy hunters. A considerable amount of money would be raised, which could be ploughed back into conservation.

Ultimately, the lifting of unnecessary trade restrictions would create a market-regulated system of rhino conservation, where the state agencies could concentrate their efforts on other issues that are less easily resolved by the market.

Selected References

- Buyts, Daan & Anderson, Jeremy. 1989. Disquiet was Justified, White Rhinos on Private Land in South Africa. *The Rhino and Elephant Journal* 2: 26-31.
- Fiske, Symond. 1988. Rhinos: By the Horn? *Effective Farming*, January, 21.
- Hardin, Garrett. 1968. The Tragedy of the Commons. *Science* 62 (13 December): 1243-8.
- Louw, Leon. 1989. Privatisation for Preservation. *Portfolio* 29: 5-6.
- Martin, Esmond Bradley. 1980. *The International Trade in Rhinoceros Products*. Gland, Switzerland: International Union for Conservation of Nature/World Wildlife Fund.
- Martin, Esmond Bradley & Vigne, Lucy. 1988. Abetting the Rhino Horn Trade. *Quagga* 24:23-24.
- Mentis, Mike. 1989. Auctions Could Stamp Out Rhino Extinction. *The Star*, 18 August.
- Owen-Smith, Garth. 1987. Wildlife Conservation in Africa: There is Another Way. *Quagga* 17:18-13.
- South African Law Commission. 1989. Working Paper 27, Project 69: Acquisition and Loss of Ownership of Game. Pretoria: South African Law Commission.

Author's address

Mike 't Sas-Rolfes
23 Eton Park
Sandhurst
2196 Sandton

Esmond Bradley Martin



Rhino horn products on sale in pharmacies in Taiwan